I claim:

1. A method for automatically estimating the subjective quality of a multimedia signal transmitted over a packet connection during a single call, comprising the steps of:

    a. during more than one interval of a single call determining the level of one or more impairments, and

    b. during more than one interval of that same single call determining the effect of said one or more impairments on the estimated subjective quality of said multimedia signal.

2. A method as defined in Claim 1, wherein said one or more impairments is selected from the group consisting of delay, packet loss, jitter, and distortion.

3. A method as defined in Claim 2, wherein determining the effect of said one or more impairments on the estimated subjective quality includes:

    a. determining the statistical distribution of time spent by said packet connection in at least a low packet loss probability state and a high packet loss probability state, and

    b. determining the effect of said statistical distribution on the estimated subjective quality of said multimedia signal.

4. A method as defined in Claim 2, wherein determining the effect of said one or more impairments on the estimated subjective quality includes:

    a. computing a voice quality degradation due to jitter, and

    b. determining the effect of said voice quality degradation due to jitter on the estimated subjective quality of said multimedia signal.

5. A method as defined in Claim 2, wherein determining the effect of said one or more impairments on the estimated subjective quality includes:

    a. computing a voice quality degradation due to delay, and

    b. determining the effect of said voice quality degradation due to delay on the estimated subjective quality of said multimedia signal.

6. A method as defined in Claim 2, wherein determining the effect of said one or more impairments on the estimated subjective quality includes:

    a. determining the number of instances the amplitude of said multimedia signal has exceeded a threshold, and

    b. determining the effect of said number of instances on the estimated subjective quality of said multimedia signal.

7. A method as defined in Claim 2, further comprising the step of reporting an estimated subjective quality to a central database system following the termination of said multimedia signal.

8. A method as defined in Claim 2, further comprising the steps of comparing said estimated subjective quality to a threshold and sending an event message to a central management system if said subjective quality is below said threshold.

9. A method as defined in Claim 2, further comprising the insertion of a representation of the estimated subjective quality of the received multimedia signal into transmitted voice packets.

10. A method as defined in Claim 2, further comprising the periodic updating of a counter wherein:

    a. when the estimated subjective quality is low, said counter is reduced by an amount dependent on said subjective quality, and

    b. when the estimated subjective quality is high, said counter is increased.

11. A system for automatically estimating the subjective quality of a multimedia signal transmitted over a packet network during a single call wherein the multimedia signal connects two or more multimedia signal to packet conversion points and one or more of said conversion points are physically grouped within an enclosure, comprising a plurality of quality monitors for performing monitoring functions wherein:

a. each of said functions performed by said quality monitors, monitors one of said conversion points and each of said quality monitors is contained within the same enclosure as said conversion point;

b. each of said functions estimates the subjective quality resulting from the conversion of received packets to a multimedia signal performed by said conversion point during a single call; and

c. each of said quality monitors for performing monitoring functions

    i. determines, during more than one interval of said single call, the level of one or more impairments, and

    ii. determines, during more than one interval of said single call, the effect of said one or more impairments on the estimated subjective quality of said multimedia signal.

12. A system as defined in Claim 11, wherein said one or more impairments is selected from the group consisting of delay, packet loss, jitter, and distortion.

13. A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions

a. determine, during more than one interval of that same single call, the statistical distribution of the time spent by said packet connection in at least a low packet loss probability state and a high packet loss probability state, and

b. determine, during more than one interval of that same single call, the estimated effect of said statistical distribution on the subjective quality of said multimedia signal.

14. A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions

a. computing, during more than one interval of that same single call, a voice quality degradation due to jitter, and

b.   determine, during more than one interval of that same single call, the effect of said voice quality degradation due to jitter on the estimated subjective quality of said multimedia signal.

15.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions

     a.   computing, during more than one interval of that same single call, a voice quality degradation due to delay, and

     b.   determine, during more than one interval of that same single call, the effect of said voice quality degradation due to delay on the estimated subjective quality of said multimedia signal.

16.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions

     a.   determine, during more than one interval of that same single call, the number of instances the amplitude of said multimedia signal has exceeded a threshold, and

     b.   determine, during more than one interval of that same single call, the effect of said number of instances on the estimated subjective quality of said multimedia signal.

17.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions report the estimated subjective quality of the multimedia signal to a central database system following the termination of said multimedia signal.

18.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions compare the estimated subjective quality of the multimedia signal to a threshold and sends an event message to a central management system if said subjective quality is below said threshold.

19.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions insert a representation of the estimated subjective quality of the received multimedia signal into transmitted voice packets.

20.   A system as defined in Claim 12, wherein the quality monitors for performing monitoring functions contain a counter wherein:

   a.   when the estimated subjective quality is low, said counter is reduced by an amount dependent on said subjective quality, and

   b.   when the estimated subjective quality is high, said counter is increased.

21.   A system for automatically estimating the subjective quality of a multimedia signal transmitted over a packet connection during a single call, comprising:

   a.   a means for determining, during more than one interval of said single call, the level of one or more impairments, and

   b.   a means for determining, during more than one interval of said single call, the effect of said one or more impairments on the estimated subjective quality of said multimedia signal.

22.   A system as defined in Claim 21, wherein said one or more impairments is selected from the group consisting of delay, packet loss, jitter, and distortion.

23.   A system as defined in Claim 22, further comprising:

   a.   a means for determining, during more than one interval of that same single call, the statistical distribution of the time spent by said packet connection in at least a low packet loss probability state and a high packet loss probability state, and

   b.   a means for determining, during more than one interval of that same single call, the effect of said statistical distribution on the estimated subjective quality of said multimedia signal.

24.   A system as defined in Claim 22, further comprising:

a.   a means for computing, during more than one interval of that same single call, a voice quality degradation due to jitter, and

b.   a means for determining, during more than one interval of that same single call, the effect of said voice quality degradation due to jitter on the estimated subjective quality of said multimedia signal.

25.   A system as defined in Claim 22, further comprising:

a.   a means for computing, during more than one interval of that same single call, a voice quality degradation due to delay, and

b.   a means for determining, during more than one interval of that same single call, the effect of said voice quality degradation due to delay on the estimated subjective quality of said multimedia signal.

26.   A system as defined in Claim 22, further comprising:

a.   a means for determining, during more than one interval of that same single call, the number of instances the amplitude of said multimedia signal has exceeded a threshold, and

b.   a means for determining, during more than one interval of that same single call, the effect of said number of instances on the estimated subjective quality of said multimedia signal.

27.   A system as defined in Claim 22, further comprising; a means for reporting an estimated subjective quality to a central database system following the termination of said multimedia signal.

28.   A system as defined in Claim 22, further comprising; a means for comparing said estimated subjective quality to a threshold and sending an event message to a central management system if said subjective quality is below said threshold.

29. A system as defined in Claim 22, further comprising; a means for inserting a representation of the estimated subjective quality of the received multimedia signal into transmitted voice packets.

30. A system as defined in Claim 22, further comprising; a means for periodically updating a counter wherein:
   a. when the estimated subjective quality is low, said counter is reduced by an amount dependent on said subjective quality, and
   b. when the estimated subjective quality is high, said counter is increased.